What is claimed is:

1. An exhaust gas purifying apparatus for an internal combustion engine, in which a plasma generator is mounted in an exhaust passage, comprising:

detection means for detecting exhaust water content and exhaust temperature; and

control means for controlling at least one of two factors, frequency or voltage of an AC voltage used to operate the plasma generator, in accordance with the detected exhaust water content and exhaust temperature.

2. An apparatus as claimed in claim 1, wherein the control means first causes the frequency or the voltage to decrease as the exhaust temperature rises from room temperature, and then causes the frequency or the voltage to increase.

3. An apparatus as claimed in claim 1, wherein the control means causes the frequency or the voltage to decrease in proportion to the exhaust water content.

4. An apparatus as claimed in claim 1, further comprising diagnostic means for setting an acceptable leakage current value in accordance with the frequency and voltage used to operate the plasma generator, and for determining that a leakage current fault condition has occurred when a discharge current value of the plasma generator has exceeded the allowable leakage current value for more than a predetermined time.

5. An apparatus as claimed in claim 1, wherein a NO_x storage-reduction catalyst is disposed on the downstream side of the plasma generator, and oxidation of NO to NO_2 is performed in the plasma generator.

6. An apparatus as claimed in claim 5, wherein the NO_x storage-reduction catalyst is carried on a particulate filter, and generation of active oxygen is performed in the plasma generator.